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This TV incorporates High-Definition Multimedia Interface (HDMI™) technology.
HDMI, the HDMI  logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

# Federal Communications Commission Statement

This equipment has been tested and found to comply with the limits of a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient/Relocate the receiving antenna.

2. Increase the separation between the equipment and receiver.

3. Connect the equipment into an outlet on a circuit which is different from what the receiver is connected to.

4. Consult the dealer or an experienced radio/TV technician for help.

> ⚠ **Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user authority to operate the equipment.**

# Warnings and Precautions

To prevent any injuries, the following safety precautions should be observed in the installation, use, servicing and maintenance of this equipment.
Before operating this equipment, please read this manual completely, and keep it nearby for future reference.

<div style="border:1px solid; padding:10px;">

**CAUTION**

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**

**TO REDUCE THE RISK OF ELECTRIC SHOCK
DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO
QUALIFIED SERVICE PERSONNEL.**

The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

</div>

| Important Safety Instructions |
| --- |
| This symbol indicates caution points. |
| This symbol indicates actions that should not be done. |
| This symbol indicates actions that must be performed. |
| ▪ Do not display a still image (such as those that occur when playing video games or when a PC is connected to the TV) on this plasm TV for more than 30 minutes as that can cause screen image retention. This image retention is also known as screen "burn-in". |
| ▪ Do not place the equipment on uneven or unstable carts, stands, tables, shelves etc. The equipment may fall, causing serious injury to children or adults and serious damage to the equipment itself.<br>Always place the equipment on the floor or on a surface that is sturdy, level, stable and strong enough to support the weight of the equipment.<br><br>▪ Use only a cart or stand recommended by the manufacturer. This equipment and recommended cart or stand should be handled with care. Quick stops, excessive force, and uneven surfaces may cause the equipment and cart/stand to overturn. |
| ▪ Do not disable the 3-wire grounding type plug. The grounding pin on the 3-prong plug is an important feature. Removing the grounding pin will increase the risk of damaging the equipment. |

- If you can not fit the plug into the electrical outlet, contact an electrician to install a grounding outlet.

- Always operate this equipment from the type of power source indicated on the rear of the serial/model plate.

- Never overload wall outlets and extensions.

- Use and handle the power cord with care. Do not place any heavy objects on the AC power cord.

- Do not pull the AC power cord. Do not handle the AC power cord with a wet hand.

- Do not touch the power cord and antenna cable during lightning.

- Remove the plug from the wall outlet, if the equipment will not be used for a long period of time.

- Do not place, use or handle this equipment near water.

- Never expose the equipment to liquid, rain, or moisture.
  Seek service if any of the above is spilled into the equipment.

- Do not expose the equipment to extreme temperature or to direct sunlight, as the equipment may heat up and suffer damage.

- Do not install the equipment near any heat sources such as radiators, heat registers, stoves, or any other apparatus that might produce heat.

- Do not attempt to service the equipment yourself.

- Opening and removing the covers may expose you to dangerous voltage or other hazards and may void your warranty. Refer service to qualified personnel.

- Do not place or drop any other objects on top.

- Do not insert anything into the ventilation holes of your equipment.
  Inserting any metal or flammable objects may result to fire or electric shock.

- Protect the power cord from being walked on or pinched particularly at plugs ,convenience receptacles, and the point where they exit from the apparatus.

- Do not block any ventilating openings. Leave an open space around the equipment.
  Never place the equipment :
  on a bed, sofa, rug, or any other similar surfaces; too close to drapes/curtains/walls, in a bookcase, built-in cabinet, or any other similar places that may cause poor ventilation.

- Unplug this apparatus during lightning storms or when unused for long periods of time.

- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been admaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

- Always remove the power cord from the outlet before cleaning the equipment.

- Never use liquid or aerosol cleaners on the equipment.
  Clean only with a soft dry cloth.

- Only use attachments/accessories specified by the manufacturer.

## LISTENING WITH EARPHONES

- Listen at moderate Volumes to avoid hearing damage.
- If you hear no sound during playback, do not turn the Volume up as the music may suddenly begin at a high Volume. Excessive sound pressure from earphones and headphones can cause hearing loss.
- To avoid damaging your ears, adjust the Volume to the lowest level before playback, and turn up to the desired level when playback has started.

### Antenna  Safety Instructions

If an outdoor antenna is connected, follow the precautions below:

- An outdoor antenna should not be located in any area where it could come in contact with overhead power lines, or any other electric light or power circuits.

- When installing an outdoor antenna system, extreme caution should be taken to prevent contact with power lines. Direct contact with power lines may be fatal and should be avoided at all costs.

Section 810 of National Electrical Code (NEC) provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

Antenna lead-in wire

Ground clamps

Antenna discharge unit
(NEC section 810-20)

Electric service
equipment

Grounding conductors
(NEC section 810-20)

**Ground clamps**

Power service grounding
(NEC Art250 part H)

NEC : National Electrical code

**EXAMPLE OF OUTDOOR ANTENNA GROUNDING**

# TABLE OF CONTENTS

# Chapter 1
# Introducing the TV

## Key Features

**Multiple Audio/Video Inputs and Outputs for Easy, User-Friendly Connections**
- 1 composite VIDEO input terminal
- 1 component Video input terminal
- 1 VGA and VGA Audio input terminal
- 1 HDMI input terminal (with built-in Audio)
- 1 Audio(L/R) input terminal for S-VIDEO
- 1 COAXIAL output terminal
- 1 Earphone terminal

**Built-in TV tuner to receive HD ATSC**
- This function allows the reception of HD broadcasting without the addition of a set top box.

**High Definition Multimedia Interface (HDMI)**
- High Definition Multimedia Interface (HDMI) is a small, user-friendly interconnect that can carry up to 5 Gbps of combined video and audio in a single cable. This system eliminates the cost, complexity and confusion of multiple cables used to connect current A/V systems.

**HDTV Component Video Inputs**
- Offers the best video quality for DVD(HD1080p,1080i, 720p) and digital set-top-box (HD1080p,1080i, 720p) connections (19" TV offers 1080i and 720p outputs).

**3D Digital Noise Reduction**
- This function can digitally reduce image noise to provide better picture quality.

**Film-Mode Detection (3:2 Reverse Pull Down)**
- This function can automatically detect content derived from film and adjust the interlacer's frame matching to provide a more natural-looking, clearer image of the moving picture.

## Package Contents

Make sure all of the following contents are included.

☑ TV

☑ Remote Control/
AAA Batteries x 2

☑ AC-DC Adapter

☑ Power Cord

☑ User's Manual      ☑ Quick Start Guide      ☑ Warranty Card

> (!) The photos of the accessories are for reference only, the color of the remote control, the type of power cord are variable based on the actual models.

> (!) These items are all you need to set up and operate the TV in its basic configuration. If you are missing any items, please return this product to the original place of purchase.

# Setting Up Your TV

How to install the TV Stand

Follow the instructions below to install the TV stand:

❶ Open the box, and make sure all necessary parts are  in the box. The package contains:

**TV**                    **Stand**

❷ Cover an even and stable surface with a soft cloth. Place the TV unit face-down on the cloth. Fit the stand onto the bottom of the TV unit as shown, then use a screw driver to tighten the screw on the bottom of the stand until the screw is firmly fixed in place.
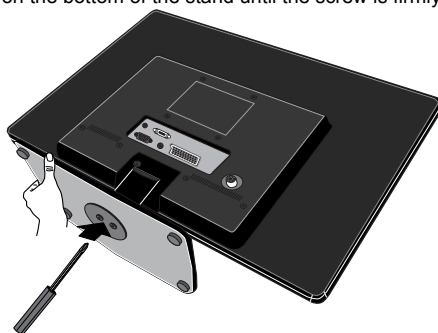
❸ This unit is designed to allow you to have a comfortable viewing angle, which can be adjusted by slightly rotating the TV to the front or rear.

**20°**

Do not force the TV over its maximum viewing angle settings as stated above. Attempting this will result in damage to the TV and stand.

How to remove the TV Stand

If you prefer to mount your new TV on a wall instead of attaching it to the stand, please reference the instructions included in the wall mounting kit (sold separately).
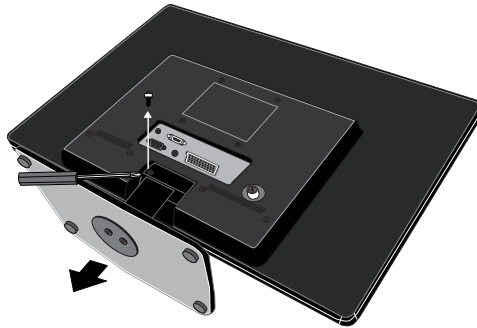
❶ To prevent damaging the surface of the TV, place the TV on a soft cloth.
Remove the screw of the table stand and detach the table stand from the TV.



❷ Affix the VESA standard mount to the back of the TV using the four screws provided in the wall-mount kit. When installing the TV on the wall, allow some space between the TV and the wall.
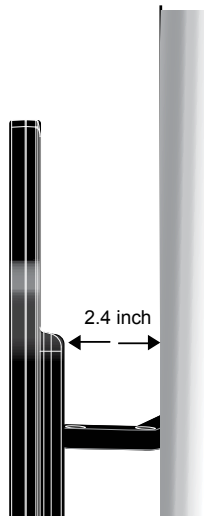


2.4 inch

**When installing the TV on the wall, allow some space between the TV and the wall (at least 2.4 inches). Verify your TV's model and be sure to use the wall mounting kit specified for your TV model only. Contact a technician for assistance when installing the wall mounting kit.**

How to setup the TV

❶ Use a supplied antenna cable to connect the VHF/UHF signal to the TV's ANT. terminal (refer to page14-18).
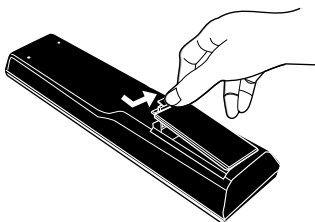
❷ Connect the AC power cord to the back of the TV and connect the power cord to the wall outlet.

❸ Insert the 2 batteries supplied in remote control.

**Step1** Slide the back cover up to open the battery compartment of the remote control.

**Step2** Insert two AAA size batteries. Make sure to match the (+) and ( - ) ends of the batteries with the (+) and ( - ) ends indicated in the battery compartment. Slide the cover back into place.
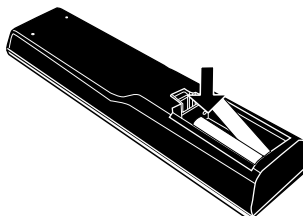
⚠ **Do not use caustic cleaners (porcelain, stainless steel, toilet, or oven cleaner etc.) on the remote, as it may cause damage.**

❹ Connect other external AV devices (refer to page19-24).

# Your TV

Front/Left /Right Side View and Controls

Right Side View          Front View          Left Side View

**IR**
Infrared Receiver

**LED**
The LED light indicates when the TV is on.

**VOL+-**
Adjusts the volume up and down. Selects the main menu item and change values for items when in the OSD mode.

**CH▲▼**
Scans up and down through channels. Selects sub-menu item when in the OSD mode.

**MENU**
Press once to display the OSD (on screen display), press again to turn the OSD off.

**INPUT**
Chooses from different input signal sources.

**⏻**
Turns the TV on and into standby mode.

Rear View and Jacks

**EARPHONE**
Connects to the external headphone for private listening.

**YPbPr IN //AUDIO(L/R) IN**
Connects to the DVD player, Digital Set-Top-Box, or other AV equipment with component(YPbPr) video and audio output jacks.

**HDMI IN**
Connects the all digital AV equipment with HDMI connector.
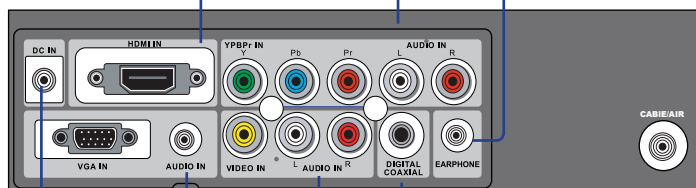
**DC IN**
Connect the power cord to the AC-DC adapter and wall outlet.

**VGA IN/AUDIO IN**
Connects the PC, or other AV equipment with VGA and line in jacks.

**VIDEO/AUDIO(L/R) IN**
Connects to the Composite VIDEO and AUDIO(L/R) output jacks on external video equipment.

**DIGITAL COAXIAL**
Connects to the audio jack on the digital/standard 5.1 audio system.

**VHF/UHF IN**
Connects RF input from VHF/UHF antenna or cable to receive high/standard definition television.

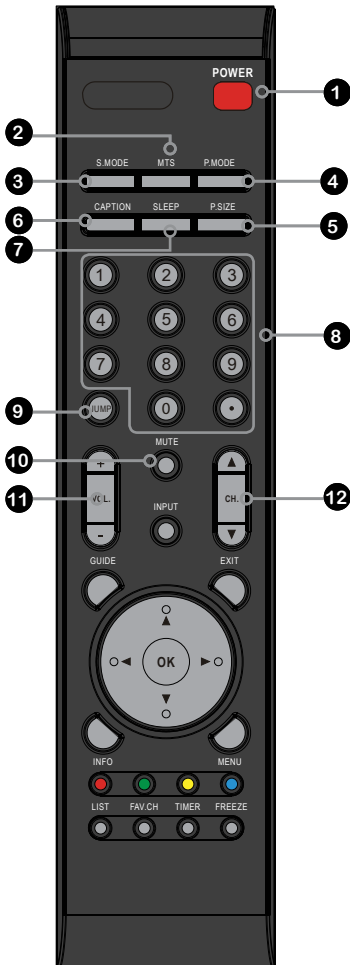# Your Remote Control

| | | |
|---|---|---|
| **1** ⏻ | | Turns the TV on and off. |
| **2** MTS | | Cycles through the multi-channels TV sound (MTS) options: SAP/MONO/STEREO |
| **3** S.MODE | | Selects sound effect options: Surround/Live/Dance/Techno/Classic/Soft/Rock/Pop/Off. |
| **4** P.MODE | | Selects picture mode: Vivid/Hi-Bright/Cinema/Sport/User |
| **5** P.SIZE | | Cycles through Wide mode settings : NORMAL /FULL/WIDE/ZOOM |
| **6** CAPTION | | Cycles through the Closed Caption:<br>▪ Anlalog Closed Caption:CC1/CC2/CC3/CC4//Off<br><br>▪ Digital Closed Caption:Service1/Service2/Service3/Service4/Service5/Service6/Off |
| **7** SLEEP | | Cycles through the TV sleep timer: OFF/10/20/30/40/50/60/90/120 mins |
| **8** 0-9 | | Select and switch to a channel by using 0-9 buttons. |
| • | | In HDTV mode, use with 0-9 and • buttons to select a digital channels. |
| **9** JUMP | | Returns to previously selected channel. |
| **10** MUTE | | Mutes and restores the audio |
| **11** VOL.+- | | Increases and decreases volume. |
| **12** CH.+- | | Scans up and down the channels |
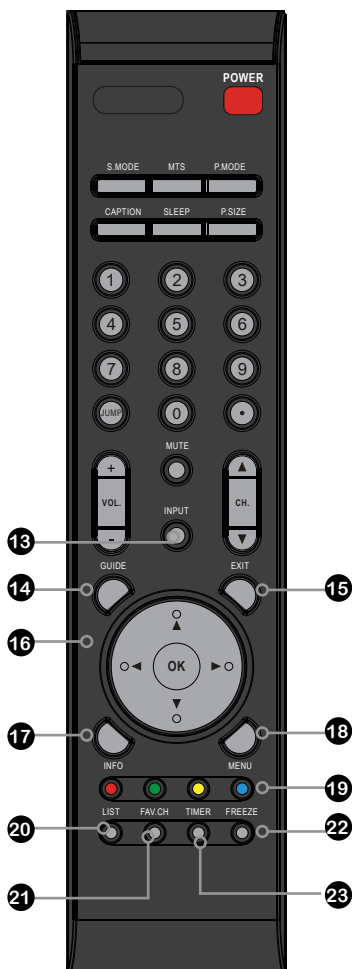
**13 INPUT** — Pressing INPUT will display the source list, use ▲ ▼ to select the video equipment connected to the video inputs of your TV and press **OK** to confirm:

| Input Source |
| --- |
| ✓ **TV(CABLE/ANTENNA)** |
| **VIDEO1 (AV)** |
| **VIDEO2 (YPbPr)** |
| **VIDEO3 (HDMI)** |
| **COMPUTER(VGA)** |

**14 GUIDE** — Displays the Program Guide on the screen. Press again to turn GUIDE off.

**15 EXIT** — Exits the OSD menu.

**16 ▲▼►◄ OK** — Cycles through OSD options and selects individual menu items. OK confirms option settings.

**17 INFO** — Pressing repeatedly displays a variety of information such as the current channel and the input source.

**18 MENU** — Displays the OSD menu on the screen.

**19 🔴🟢🟡🔵** — In EPG mode, used in EPG function setup.

**20 LIST** — Displays the received channel list

| Channel List |
| --- |
| 7-1 KABC-DT |
| 9-1 KQED-HD |
| 9-2 KQED-SD |
| 8    CCT |
| 12 |
| 13 |
| 15 |

**21 FAV.CH** — Pressing **FAV.CH** display favorite channels.

**22 TIMER** — Displays the current time on the screen.

**23 FREEZE** — **In TV mode,** pressing **FREEZE** to freeze the current picture, press again to restore the picture.

⚠ **Effective range:**
**The remote can control the TV from up to 197 inch away, if pointed directly at the receiver.**

# Chapter 2
# Installing the TV

Refer to the owner's manual of any external equipment to be connected.
When connecting any external equipment, do not connect any AC power cords to wall outlets until all other connections are completed.

## Connecting a TV Cable or an Antenna

Antenna Connection

The antenna requirements for good color TV reception are more important than those for a black & white TV reception. For this reason, a good quality outdoor antenna is strongly recommended.
The following is a brief explanation of the type of connection that is provided with the various antenna systems.

■ **A 75-ohm system is generally a round cable (not included) with F-type connector that can easily be attached to a terminal without tools.**

**F-type connector**

**75-ohm coaxial cable (round)**

■ **A 300-ohm system is a flat twin-lead cable (not included) that can be attached to a 75-ohm terminal through a 300-75-ohm adapter (not included).**
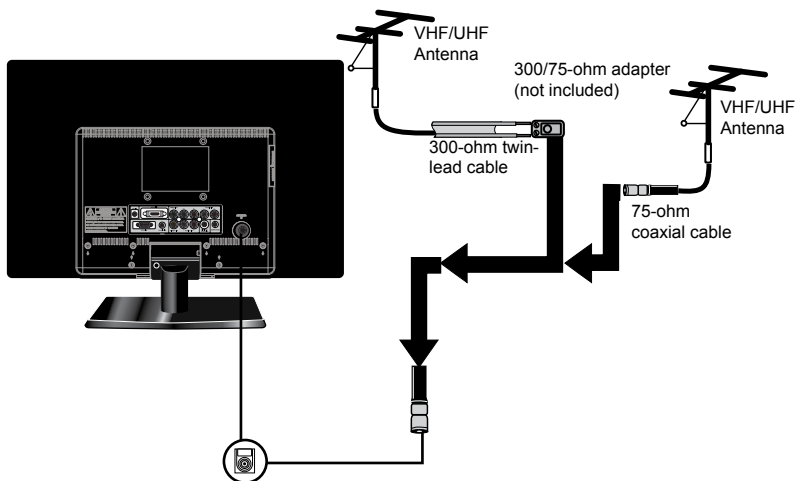
**300-ohm twin-lead cable (flat)**

Use one of the following two diagrams when connecting an outdoor antenna.
A: Shows how to use a VHF/UHF combination outdoor antenna.
B: Shows how to use a separate VHF and/or UHF outdoor antenna.

## A. Combination VHF/UHF antenna

VHF/UHF
Antenna

300/75-ohm adapter
(not included)

VHF/UHF
Antenna

300-ohm twin-
lead cable

75-ohm
coaxial cable

## B. Separate VHF and/or UHF antennas

UHF
Antenna

Combiner
(not included)

300-ohm twin-
lead cable

OUT    IN

75-ohm
coaxial cable

VHF
Antenna

300-ohm twin-
lead cable
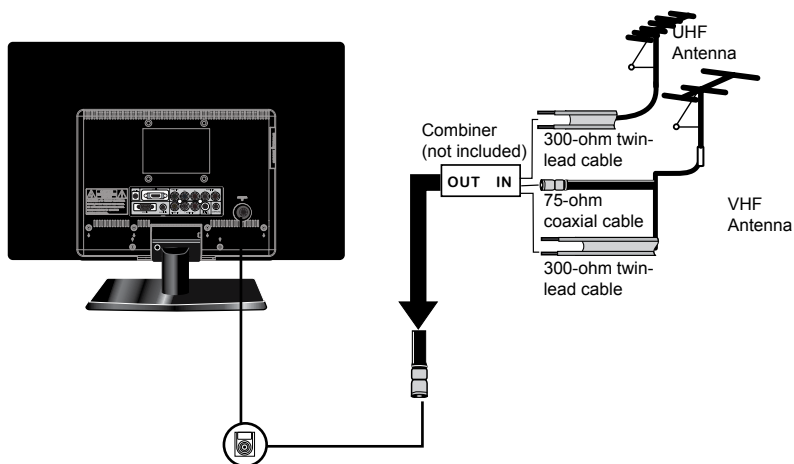
Cable TV (CATV)  Connection

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the National Electrical Code (NEC) that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building accurately, or as close to the point of cable entry as possible. Use of this TV for other than private viewing of programs broadcasted on UHF, VHF or transmitted by cable companies for the use of the general public may require authorization from the broadcast/cable company, and/or program owner.

■ **A 75-ohm coaxial cable connector is built into the set for easy hookup. When connecting the 75-ohm coaxial cable to the set, connect the 75-ohm cable  into the ANT. terminal.**

■ **Some cable TV companies offer premium pay channels. Since the signals of these premium pay channels are scrambled, a cable TV converter/descrambler is generally provided to the subscriber by the cable TV company.**

This converter/descrambler is necessary for normal viewing of scrambled channels.
(Set your TV to channel 3 or 4, typically one of these channels is used. If this is unknown, consult your cable TV company.)
For more specific instructions on installing cable TV, consult your cable TV company.
One possible method of connecting the converter/descrambler provided by your cable TV company is shown in the diagram below.
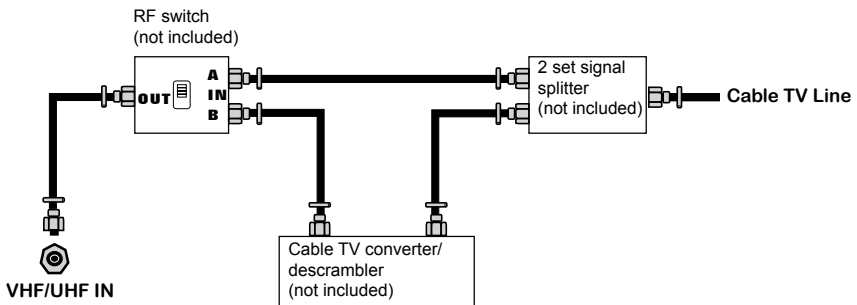


■ **The RF switch (not included) is required to provide two inputs (A and B).  Setting the RF switch to position A allows viewing of all unscrambled channels by using the TV channel keys.**

■ **Setting the RF switch to position B allows viewing of all scrambled channels via the converter/descrambler by using the converter channel keys.**

❶ Use a supplied antenna cable to connect the TV signal to the TV's TV CABLE terminal.
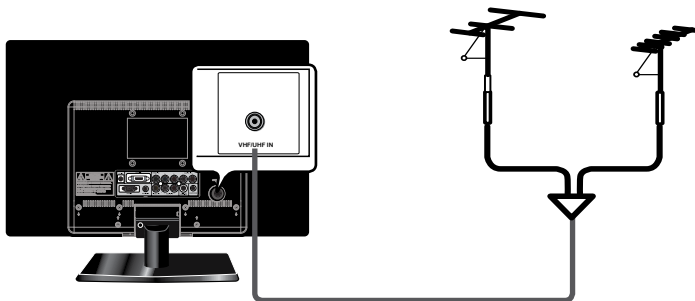


❷ Connect the DC plug of the AC-DC adapter to the DC 12V port at the back of the TV.

❸ Connect the AC-DC adapter and its power cord. Connect the power cord to wall outlet.
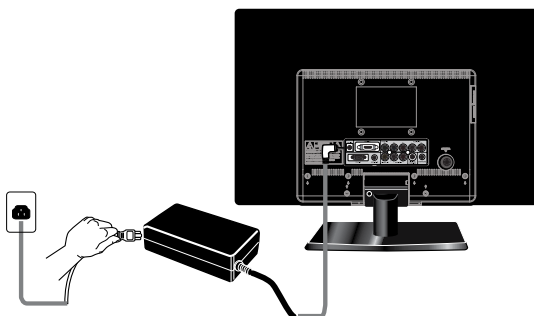


❹ Press the ⏻ button on the remote to turn on the TV.

> Always disconnect the TV from the main voltage when the TV will not be used for a long period of time. The POWER button on the front panel is only used for switching the TV into standby, it does not disconnect the device from the main voltage. To completely disconnect the main voltage, please remove the power plug from the socket.

❺ Press the **INPUT** button on the remote to display the Input List. Use the ▲ ▼ buttons to select **TV(CABLE/ANTENNA)** and press the **OK** button.

| Input Source |
| --- |
| ✓ TV(CABLE/ANTENNA) |
| VIDEO1 (AV) |
| VIDEO2 (YPbPr) |
| VIDEO3 (HDMI) |
| COMPUTER(VGA) |

❻ Press the **MENU** button on the remote control to display the Main menu, and use the ◄►
buttons to select **TV**.



❼ Press the ▼ button to select **Channel Scan**, and press the **OK** button.
The **Channel Scan** automatically creates a list of receivable channels. Press the
**MENU** button at any time to interrupt the memorization process (The list will not be
created if interrupted.)

> The Channel Scan will create a list of receivable channels for the current
> input (antenna or cable). You will be required to run a Channel Scan for each
> RF input to create a list of available channels from both inputs.

❽ Press the **LIST** button to display the received channel list. Then press ▲ ▼ to select a
channel and press the **OK** button to display the channel detail.
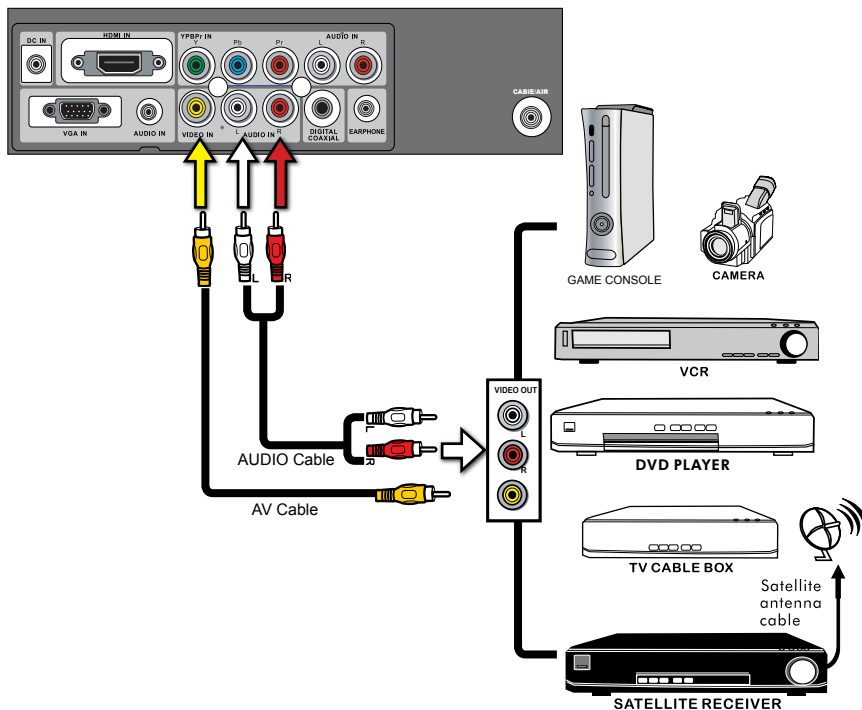


Or, use the ▪ button) with **0-9** buttons to select digital channel( for example 9.1)

> The digital main channel might include many subchannels (for example 9-1, 9-
> 2..) that are showing program at the same time

# Connecting an A/V Device with Composite Connector

Rear of TV



❶ Use a composite cable to connect the external A/V device's composite audio/video jacks to the TV's VIDEO IN jacks.

❷ Connect all AC power sources, before turning on the power switch of the TV or other connected equipment.

❸ Press the ⏻ button on the remote to turn on the TV.

❹ To view the A/V device's with component input, press the **INPUT** button on the remote , then using ▲ or ▼ button to select **VIDEO1**.

⚠ **Not all A/V devices have the ability to connect to a TV. Please check your A/V devices user guide for compatibility.**

# Connecting an A/V Device with Component(YPbPr) Connector

Rear of TV



GAME CONSOLE  CAMERA

AUDIO Cable

COMPONENT Cable

VCR

DVD PLAYER

TV CABLE BOX

Satellite antenna cable

SATELLITE RECEIVER

> **Not all A/V device have the ability to connect to a TV. Please check your A/V device user guide for compatibility.**

❶ Use a component cable to connect the external A/V device's component output jacks to the TV's YPbPr IN input jacks.
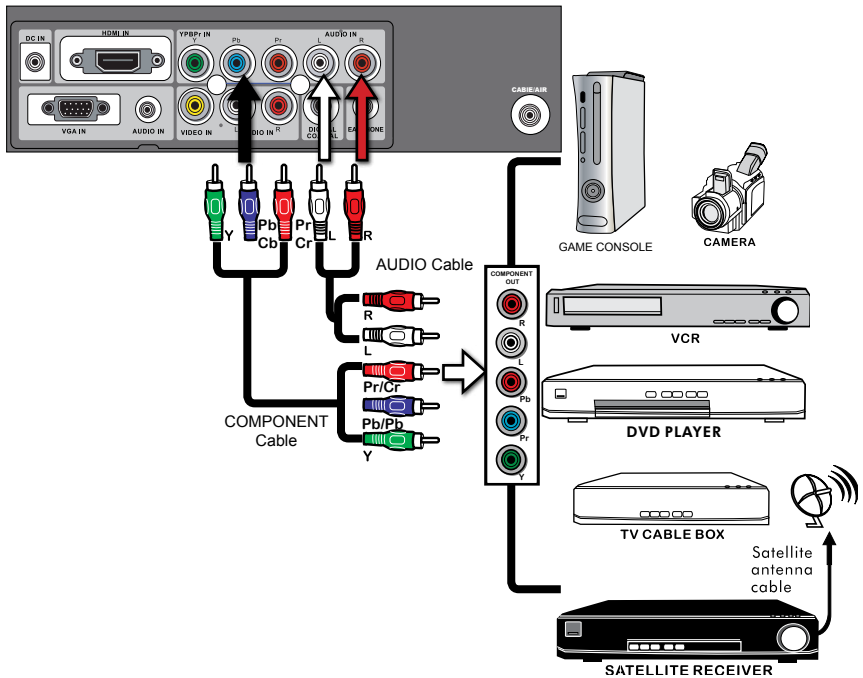Use an audio cable to connect the external A/V device's component audio jacks to the TV's audio input jacks.

❷ Connect all AC power sources, before turning on the power switch of the TV or other connected equipment.

❸ Press the ⏻ button on the remote to turn on the TV.

❹ To view the A/V device's with component input, press the **INPUT** button on the remote , then using ▲ or ▼ button to select **VIDEO2** and press OK button.

> **The component video jacks on your A/V device are sometimes labeled YPbPr, or YCbCr. For an explanation of component video, see your A/V device's user guide.**

## Connecting an AV Equipment with HDMI Connector

Rear of TV



AV EQUIPMENT

HDMI Cable

❶     Use a HDMI cable to connect the AV equipment's HDMI output jack to the TV's HDMI IN jacks.

❷     Connect all AC power sources, before turning on the power switch of the TV or other connected equipment.

❸     Press the ⏻ button on the remote to turn on the TV.

❹     Press the **Input** button on the remote, then using ▲ or ▼ button to select **VIDEO3(HDMI)** and press OK button.

> ⚠ **The HDMI connector provides both video and audio signals, it's not necessary to connect the audio cable.**

# Connecting an AV Equipment with DVI Connector

Rear of TV



AV EQUIPMENT

❶  Use a HDMI-to-DVI cable to connect the AV equipment's DVI output jack to the TV's HDMI IN jacks.
Use an audio cable to connect the AV equipment's audio output jacks to TV's HDMI AUDIO jacks.

❷  Connect all AC power sources, before turning on the power switch of the TV or other connected equipment.

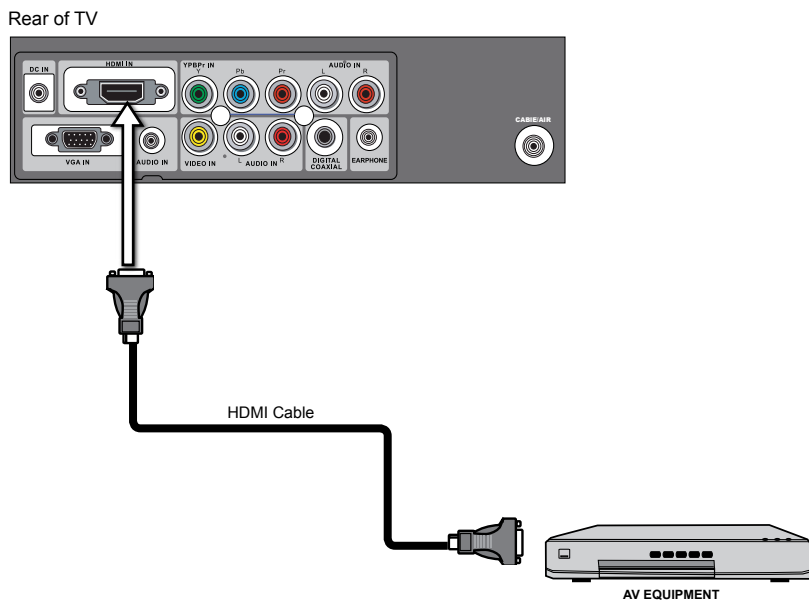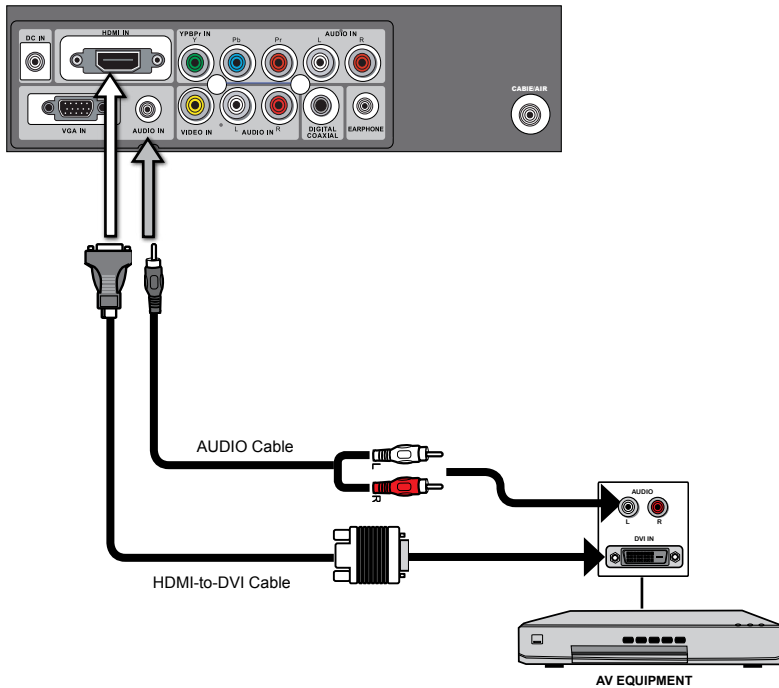❸  Press the ⏻ button on the remote to turn on the TV.

❹  Press the **Input** button on the remote, then using ▲ or ▼ button to select **VIDEO3(HDMI)** and press OK button.

> ⚠ **If the TV is connected to AV equipment's DVI connector, you will need an HDMI-to-DVI cable or an HDMI adapter(not supplied) and an audio cable.**

# Connecting a PC

Rear of TV



AUDIO Cable

VGA Cable

PC
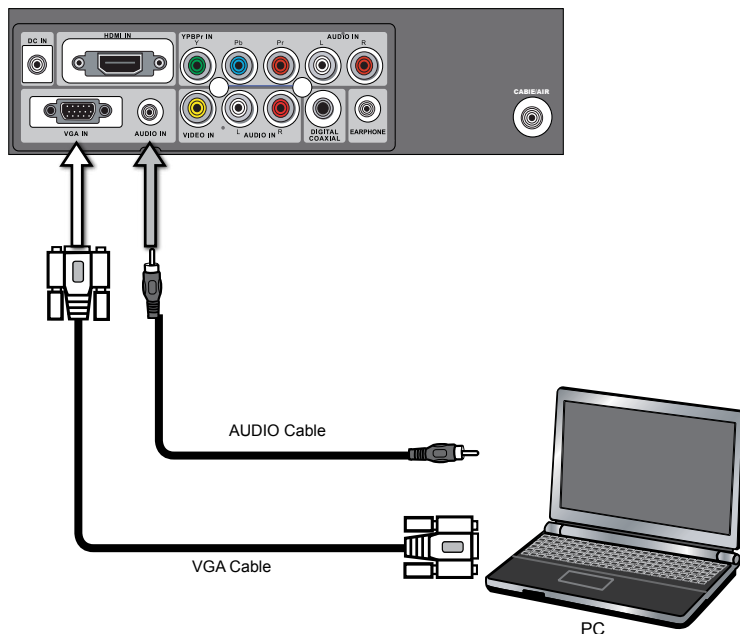
❶     Use a VGA cable to connect the PC's VGA output jack to the TV's VGA input jack. Use an audio cable to connect the PC's audio output jacks to the TV.

❷     Connect all AC power sources, before turning on the power switch of the TV or other connected equipment.

❸     Press the ⏻ button on the remote to turn on the TV.

❹     Press the **INPUT** button on the remote, then using ▲ or ▼ button to select **COMPUTER(VGA)** and press OK button.

## Connecting an Audio Receiver or a Dolby Digital 5.1 Sound System

For better sound quality, you may want to play the TV audio through your stereo system.

Rear of TV



AUDIO Cable
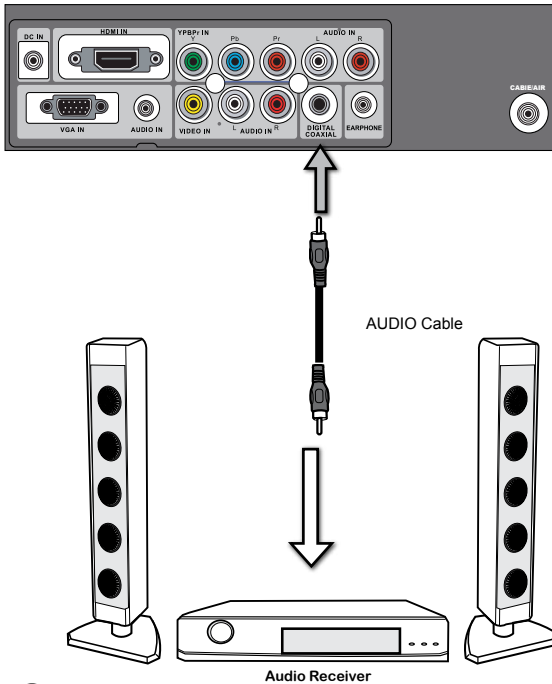
**Audio Receiver**

❶ Use an audio cable to connect the audio receiver's audio LINE IN jacks to TV's COAXIAL OUT jacks.

❷ Connect all AC power sources, before turning on the power switch of the TV or other connected equipment.

❸ Press the ⏻ button on the remote to turn on the TV.

# Chapter 3
# USING THE FEATURES

## Wide Screen Viewing

Wide Screen function allows viewing of 4:3/16:9 images in wide screen mode, cycling through the following wide screen settings. Press the **P-Size** button repeatedly to select the screen format you want.

❶ **NORMAL**
Displays at 4:3 aspect ratio
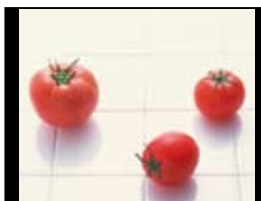


❷ **FULL**
Stretches the image vertically and horizontally to keeps the image size consistent in the center of the screen and stretches the sides



❸ **WIDE**
Stretches the image vertically and horizontally to fill the screen at 1:1.85 aspect ratio



❹ **ZOOM**
Stretches the image vertically and horizontally to fill the screen at 1:2.35 aspect ratio



⚠ **WIDE and ZOOM are not available when you are watching 720p, 1080i, 1080p, VGA, or DVI source.**

## Using the Program Guide

The Program Guide feature brings all sorts of information to your screen, such as program title, program duration, time remaining, rating information, closed caption, availability, etc.

❶ With the TV connected to a television programming source, press the **INPUT** button on the remote, then using the ▲ or ▼ button to select **TV(AIR/CABLE)** and press the **OK** button.

❷ Press the **GUIDE** button on the remote control, the Program Guide will appear on the screen:



❸ Press the ◄► buttons to select the channel.

❹ Press the ▲ ▼ buttons to select the program from a list, the Program Guide provides introduction about the current program being shown on each channel.
The program information in the guide is provided by the broadcasters. It may sometimes include only the channel number, without a program title or description.



❺ Press the **GUIDE** button again on the remote control to exit the Program Guide

# Operating the Menu

**❶**    Press the ⏻ button to turn the TV on.

**❷**    Press the **MENU** button on the remote control, the on-screen menu will appear on the screen. Use the ◄► buttons to select your main menu option.

**VIDEO MENU:**

Allows you to make adjustments to your picture settings.

- If the signal source is TV/VIDEO/YPbPr/HDMI, the VIDEO MENU appears as:

| Video | | |
|---|---|---|
| Picture Mode | Vivid | ◄► |
| Brightness | ▬▬▬▬ | 54 |
| Contrast | ▬▬▬ | 50 |
| Saturation | ▬▬▬▬ | 54 |
| Hue | | 0 |
| Sharpness | ▬ | 5 |
| Color Temperature | | ◄► |
| Noise Reduction | Medium | ◄► |

OK Enter   Select   MENU Exit

- If the signal source is VGA, the VIDEO MENU appears as:

| Video | | |
|---|---|---|
| Picture Mode | Vivid | ◄► |
| Contrast | ▬▬▬ | 50 |
| Brightness | ▬▬▬▬ | 54 |
| Color Temperature | | ◄► |
| Noise Reduction | Medium | ◄► |
| VGA | | ◄► |

OK Enter   Select   MENU Exit
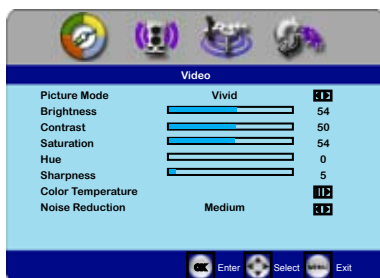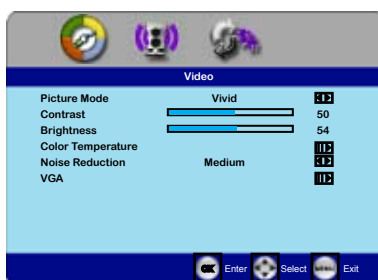
**AUDIO MENU:**

Allows you to customize the audio options and effects.

- If the signal source is VIDEO/YPbPr/HDMI/VGA, the AUDIO MENU appears as:

| Audio | | |
|---|---|---|
| Bass | ▬▬▬ | 50 |
| Treble | ▬▬▬ | 50 |
| Balance | ▬▬▬ | 0 |
| Sound Effect | Surround | ◄► |
| Speaker | On | ◄► |

OK Enter   Select   MENU Exit

- If the signal source is TV, the AUDIO MENU appears as:

| Audio | | |
|---|---|---|
| Bass | ▬▬▬ | 50 |
| Treble | ▬▬▬ | 50 |
| Balance | ▬▬▬ | 0 |
| Sound Effect | Surround | ◄► |
| MTS | Stereo | ◄► |
| SPDIF Type | Dolby Digital | ◄► |
| Audio Language | English | ◄► |
| Speaker | On | ◄► |

OK Enter   Select   MENU Exit
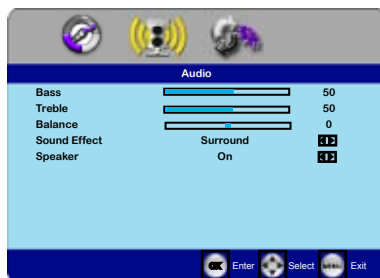
## TV MENU:

Allows you to edit and label channels.

| TV | | |
|---|---|---|
| Channel Scan | | ▥ |
| Tuner Mode | Cable | ◧ |
| Channel Skip | | ▥ |
| Favorite List | | ▥ |
| Time Zome | Eastern Time | ◧ |

OK Enter   Select   Exit

## SETUP MENU:

Allows you to set up a variety of features: Language, Closed Caption, factory reset, Parental Control, Time Setup.

▪ If the signal source is TV/VIDOE/YPbPr, the SETUP MENU appears as:

| Setup | | |
|---|---|---|
| OSD Language | English | ◧ |
| Time Setup | | ▥ |
| Closed Caption | | ▥ |
| Parental | | ▥ |
| Gamma | Middle | ◧ |
| Back Light | | ▥ |
| Input Edit | | ▥ |
| Reset Default | | ▥ |

OK Enter   Select   Exit

▪ If the signal source is HDMI/VGA, the SETUP MENU appears as:

| Setup | | |
|---|---|---|
| OSD Language | English | ◧ |
| Time Setup | | ▥ |
| Parental | | ▥ |
| Gamma | Middle | ◧ |
| Back Light | | ▥ |
| Input Edit | | ▥ |
| Reset Default | | ▥ |

OK Enter   Select   Exit
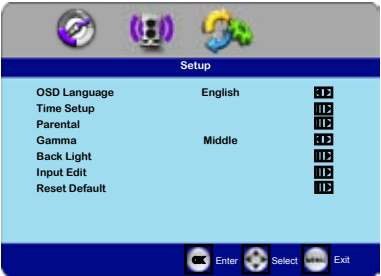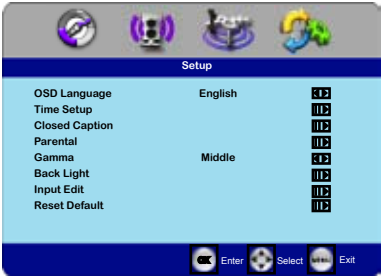
❸ Use the ▲ ▼ buttons to highlight the option of the sub-menu, and press the **OK** button. While in adjustment mode, and use the ◄► buttons to change the value of the item.

❹ Press the **EXIT** button to exit the menu.

# Customizing the VIDEO Settings

❶ Press the ⏻ button to turn the TV on.

❷ Press the **MENU** button on the remote control to display the Main menu, and use the ◄► buttons to select **VIDEO**.

❸ Use the ▲ ▼ buttons to highlight an individual VIDEO option, use the ◄► buttons to change the setting, and press the **MENU** button to exit the menu.

- If the signal source is TV/VIDEO/SVIDEO/YPbPr/ HDMI, the VIDEO MENU appears as:
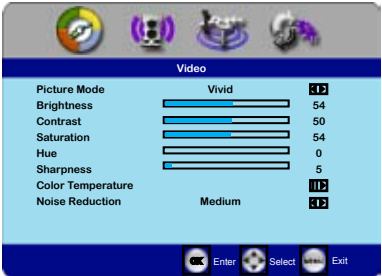
- If the signal source is VGA, the VIDEO MENU appears as:
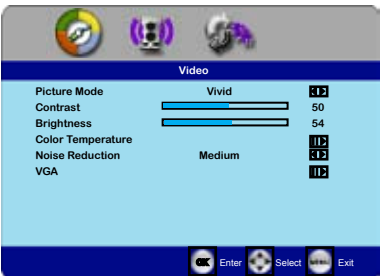




❹ The **VIDEO** menu includes the following options:

| | |
|---|---|
| **Picture Mode** | Cycles through the display types: Vivid/Hi-Bright/Cinema/Sport |
| **Contrast** | Controls the difference between the brightest and darkest regions of the picture |
| **Brightness** | Controls the overall brightness of the picture |
| **Saturation** | Controls the color intensity |
| **Hue** | Controls the difference between the green and red regions of the picture |
| **Sharpness** | Increase this setting to see crisp edges in the picture; decrease it for soft edges |

**ENGLISH**

**Color temperature**  Adjusts color components independently to achieve a warm or cool effect: Cool/Natural/Warm/User
- **Warm:**  Increases red tint
- **Nature:**  Increases green tint
- **Cool :**  Increases blue tint
- **User :**  Allows the user to adjust red, green and blue color component levels independently.

| Color Temperature | | |
|---|---|---|
| **Color Temperature** | **User** | ◀▶ |
| **R Gain** | | 120 |
| **G Gain** | | 120 |
| **B Gain** | | 120 |

Select  Back

---

**Noise Reduction**  Select to reduce the noise level of connected equipment: Off/Low/Medium/Strong.

---

**VGA**  Press the **OK** button to enter the VGA Setting:

| VGA | |
|---|---|
| **Auto Adjust** | ◀▶ |
| **H.Position** | 72 |
| **V. Position** | 31 |
| **Clock** | 127 |
| **Phase** | 31 |

OK Enter  Select  Exit
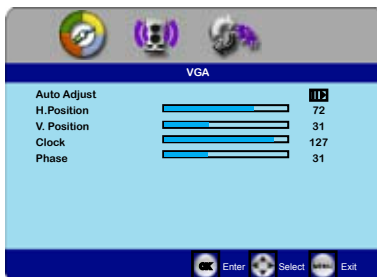
- **Auto Setting**  Press the **OK** button to automatically adjust the display settings to optimize performance based on the VGA mode

- **H. Position**  Adjusts the position of the picture left and right in the window

- **V. Position**  Adjusts the position of the picture up and down in the window

- **Clock**  Controls the width of the picture based on the VGA mode

- **Phase**  Controls the signal phase, which can improve focus clarity and image stability based on the VGA mode

# Customizing the AUDIO Settings

❶ Press the ⏻ button to turn the TV on.

❷ Press the **MENU** button on the remote control to display the Main menu, and use the ◄► buttons to select **AUDIO**.

❸ Use the ▲▼buttons to highlight an individual AUDIO option, use the ◄► buttons to change the setting, and press the **MENU** button to exit the menu

- If the signal source is VIDEO/YPbPr/HDMI/VGA, the AUDIO MENU appears as:

| | Audio | |
|---|---|---|
| Bass | | 50 |
| Treble | | 50 |
| Balance | | 0 |
| Sound Effect | Surround | ◄► |
| Speaker | On | ◄► |

OK Enter    Select    Exit

- If the signal source is TV, the AUDIO MENU appears as:

| | Audio | |
|---|---|---|
| Bass | | 50 |
| Treble | | 50 |
| Balance | | 0 |
| Sound Effect | Surround | ◄► |
| MTS | Stereo | ◄► |
| SPDIF Type | Dolby Digital | ◄► |
| Audio Language | English | ◄► |
| Speaker | On | ◄► |

OK Enter    Select    Exit
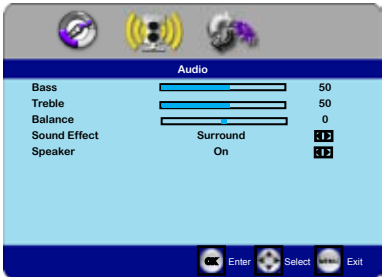
❹ The **AUDIO** menu includes the following options:

| | |
|---|---|
| **Bass** | Controls the relative intensity of lower-pitched sounds |
| **Treble** | Controls the relative intensity of higher pitched sounds |
| **Balance** | Adjusts the relative volume of the speakers in a multiple speaker system |
| **Sound Effect** | Allows selection of an audio-enhancement technique from the following options: Surround/Live/Dance/Techno/Classic/Soft/Rock/POP/Off |
| **Speaker** | • **On**: Select to turn on the TV speakers. |
| | • **OFF**: Select to turn off the TV speakers and listen to the TV's sound through the external audio receiver and speakers |

**MTS**                Allows you to listen to high-fidelity stereo sound while watching TV

- **Stereo**:
  Use separate audio tracks for left and right speakers, if available

- **SAP:**
  You can enjoy a second audio program from the speakers while watching a scene in the original program

- **Mono:**
  Allows mono output (useful when stereo is noisy or inconsistent)

**SPDIF Type**         Allows you to select the digital sound format: PCM/OFF/Dolby Digital

- **PCM**:
  The external audio system is connected to the AUDIO OUT (L/R) of the TV

- **Dolby Digital**:
  The external audio system is connected to the AUDIO OUT DIGITAL (OPTICAL or COAXIAL) of the TV

- **OFF**:
  Select OFF to turn off the external audio system

**Audio Language**     Allows you to select the audio language:English/Spanish/French.

**Speaker**            - **On**:   Select to turn on the TV speakers.

- **OFF:**  Select to turn off the TV speakers and listen to the TV's sound through the external audio receiver and speakers
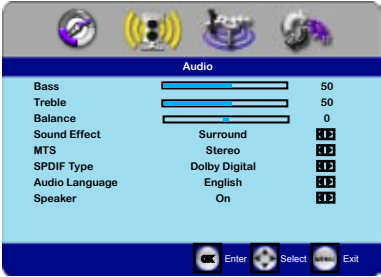
## Customizing the TV Settings

❶
    Press the ⏻ button to turn the TV on.

❷
    Press the **MENU** button on the remote control to display the Main menu, and use the
    ◄► buttons to select **TV**.

❸
    Use the ▲▼buttons to highlight an individual TV option, use the ◄► buttons
    changes the setting, and press the **MENU** button to exit the menu.



❹
    The **TV** menu includes the following options:

| | |
|---|---|
| **Channel Scan** | Press the **OK** button, the Channel Scan automatically creates a list of receivable channels. |
| **Tuner Mode** | Allows you to select between CATV cable and antenna signal sources:<br><br>▪ **AIR**<br>Choose this setting if you are receiving TV channels with an antenna (over the air)<br><br>▪ **Cable**<br>Choose this setting if you are receiving TV channels with a CATV (cable TV) |
| **Channel Skip** | Allows addition/removal of channels on the channel list.<br>❶ Press the **OK** button to display the Channel Skip menu:<br><br> |

❷ Press the ▼ button to select the desired channel, and press the **OK** button repeatedly to select **show (☐)** or **hide(☑)**

**Favorite List**   ❶ Select **Favorite List** from the TV options and press the **OK** button. The Favorite List menu appears:

| Favorite List | | |
|---|---|---|
| 2 ABC | Analog | ☐ |
| 3 DISC | Analog | ☐ |
| 4 | Analog | ☐ |
| 5 | Analog | ☐ |
| 6 | Analog | ☐ |
| 7 | Analog | ☐ |
| 8 | Analog | ☐ |
| 9 | Analog | ☐ |
| 10 | Analog | ☐ |

OK Set   Select   Exit

❷ Press the ▼ button to select the desired channel, and press the **OK** button repeatedly to select ☑(add to the favorite list) or ☐ (clear the favorite list).

**Time Zone**   Allows selection of regional TV systems of USA: Eastern Time/ Indiana/Central time/Mountain Time/Arizona/Pacific Time/Alaska/ Hawaii

## Customizing the SETUP Settings

❶ Press the ⏻ button to turn the TV on.

❷ Press the **MENU** button on the remote control to display the Main menu, and use the ◄► buttons to select **SETUP**.

❸ Use the ▲▼buttons to highlight an individual SETUP option, use the ◄► buttons to change the setting, and press the **MENU** button to exit the menu.

▪ If the signal source is TV/VIDOE/S-VIDEO/YPbPr, the SETUP MENU appears as:

▪ If the signal source is HDMI/VGA, the SETUP MENU appears as:
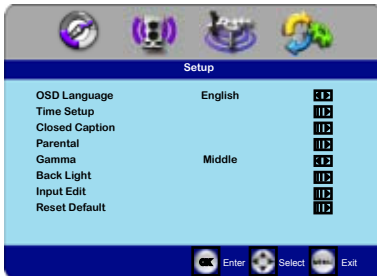




❹ The **SETUP** menu includes the following options:

| | |
|---|---|
| **OSD Language** | Select to display all on-screen menus in your language of choice: English/French/Spanish |
| **Time Setup** | Allows you to set the current time. |



**Auto Synchronization**

▪ **ON** :Select to display the TV/Cable system current time
▪ **OFF** :Select to set the current time.
  ❶ Press the ▲▼ buttons to select the Date or Time.
  ❷ Press the ◄► buttons to move each setting, and use 0-9 keys to set the current time.

**Closed Caption**   Allows you to select from analog or digital closed caption modes and press the **OK** button. The Closed Caption list appears:
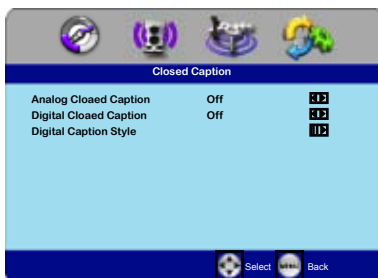


❶ **Analog Closed Caption**:
Press the ◄► buttons to select the basic analog closed caption options:Off/CC1/CC2/CC3/CC4/T1/T2/T3/T4
▪ **CC1 /CC2 /CC3 /CC4:**
Display a printed version of the dialog and sound effects of the program being viewed
▪ **T1/T2:**
Display station information presented using either half or the whole screen
▪ **T3/T4:**
Extended Data Services. For example: Network name, program name, program length, etc.

❷ **Digital Closed Caption**:
Press the ◄►buttons to select the digital closed caption options: Service1/Service2/Service3/Service4/Service5/Service6/OFF

**Note: The setting here will be applied to each DTV channel**

❸ **Digital Caption Style:**
Press **OK** button to enter the Digital Caption Style menu and press Broadcaster

| | |
|---|---|
| **Gamma** | Allows for the adjustment of the display's gamma correction, which fine tunes both brightness and red/green/blue ratios: Bright/Middle/Dark. |
| **Back Light** | Select to turn on or off the brightness of the screen.<br>▪ You can cancel the Back Light Off function by pressing any button on remote control. |
| **Input Edit** | Allows you to assign a label (maximun of 8 characters) to the input source.<br>❶ Use the ▼ button to select the **Input Edit**, and press **OK** to display the Input Edit menu<br>❷ Press the ▲ ▼ ◄ ► buttons to select Input source, and press the **OK** button to enter editing mode.<br>❸ Use the ▲ ▼ buttons to change the characters and move the cursor by ◄ ► buttons. Press the **OK** button again when finished. |



| | |
|---|---|
| **Reset Default** | Press **OK** button to restore factory settings |
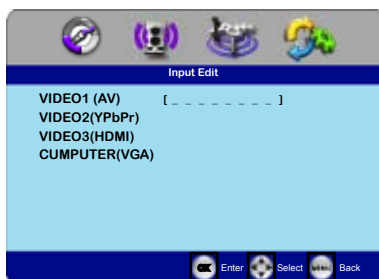
# Using the Program Block Settings

❶ Press the **MENU** button on the remote control to display the Main menu, and use the
◄► buttons to select **SETUP**.

❷ Use the ▼ button to highlight **Parental**, and press the **OK** button.

| SETUP | | |
|---|---|---|
| OSD Language | English | ◄► |
| Time Setup | | ◄► |
| Closed Caption | | ◄► |
| Parental | | ◄► |
| Gamma | Middle | ◄► |
| Input Edit | | ◄► |
| Back Light | | ◄► |
| Reset Default | | ◄► |

OK Enter    Select    MENU Exit
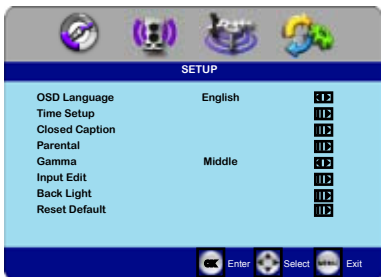
❸ To use the Parental function, you must enter a four-digit password. The factory
password is 0000.

| Parental | |
|---|---|
| Password | **** |

MENU Back

| Parental | |
|---|---|
| Program Block | ◄► |
| Channel Block | ◄► |
| Input Block | ◄► |
| Open V-Chip | ◄► |
| Change Password | ◄► |

OK Enter    Select    MENU Back
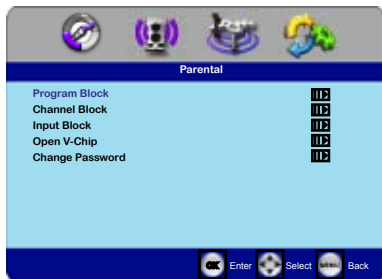
❹ Use the ▼ button to select **Program Block**, and press **OK** to display the Program
Block menu.

| Parental Block | | |
|---|---|---|
| U.S.TV Ratings | | ◄► |
| U.S. Movie Ratings | | ◄► |
| Canadian English Ratings | | ◄► |
| Canadian French Ratings | | ◄► |
| Block MPAA Unrated | NO | ◄► |
| Block TV Unrated | NO | ◄► |

OK Enter    Select    MENU Back
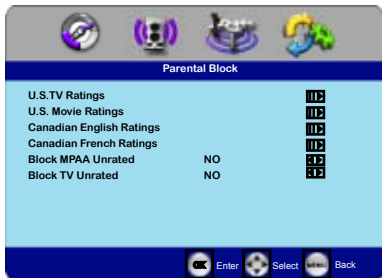
❺ The **Parental block** menu includes the following options:

| | |
|---|---|
| **U.S. TV Ratings** | Select to activate the TV Rating programs. |
| **U.S. Movie Ratings** | Select to activate the MPAA Rating programs |
| **Canadian English Ratings** | Select to activate the English Rating programs of Canada. |
| **Canadian French Ratings** | Select to activate the French Rating programs of Canada |
| **Block MPAA Unrated** | ▪ YES:<br>Block all movies that are broadcasted without a MPAA rating.<br>▪ NO:<br>Allows all movies that are broadcasted without a MPAA rating |
| **Block TV None Rating** | ▪ YES:<br>Block all movies that are broadcasted without a TV rating.<br>▪ NO:<br>Allows all movies that are broadcasted without a TV rating. |

## U.S. TV Ratings

The U.S.TV Rating has 2 rating methods: Content-Based Rating and Age-Based Rating.
The U.S.TV Rating includes the following options:



**AGE-BASED**

| RATING | DESCRIPTION |
|---|---|
| **TV-Y** | All children |
| **TV-Y7** | Directed to children age 7 and older |
| **TV-G** | General Audience |
| **TV-PG** | Parental Guidance suggested |
| **TV-14** | Parents strongly cautioned |
| **TV-MA** | Mature Audience only |

**CONTENT-BASED**

| RATING | DESCRIPTION |
|---|---|
| **FV** | Fantasy violence |
| **D** | Suggestive dialogue |
| **L** | Strong language |
| **S** | Sexual situations |
| **V** | Violence |
| **ALL** | All contents are blocked |

| | | CONTENT-BASED | | | | |
|---|---|---|---|---|---|---|
| | | FV | D | L | S | V |
| **AGE-BASED** | **TV-Y** | | | | | |
| | **TV-Y7** | ✔ | | | | |
| | **TV-G** | | | | | |
| | **TV-PG** | | ✔ | ✔ | ✔ | ✔ |
| | **TV-14** | | ✔ | ✔ | ✔ | ✔ |
| | **TV-MA** | | | ✔ | ✔ | ✔ |

✔ : To block programs by both content and age.

Use the ◄► ▲▼ buttons to select the rating you want and press the **OK** button repeatedly to select **BLOCK** 🔒 or **UNBLOCK** ☐ .

**Canadian English Ratings**

The Canadian Englsh Ratings includes the following options:
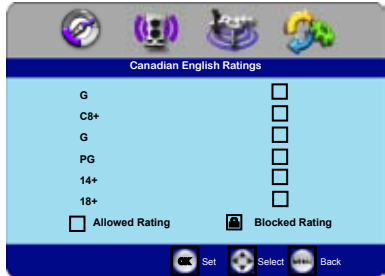


| RATING | DESCRIPTION |
| --- | --- |
| **G** | All children |
| **C8+** | Children 8 years and older |
| **G** | General programming |
| **PG** | Parental guidance |
| **14+** | Viewers 14 and older |
| **18+** | Adult programming |

Use the ◄►▲▼ buttons to select the rating you want and press the **OK** button repeatedly to select **BLOCK** 🔒 or **UNBLOCK** ☐ .

**Canadian French Ratings**

The Canadian French Ratings includes the following options:
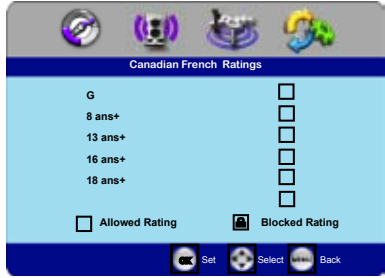


| RATING | DESCRIPTION |
| --- | --- |
| **G** | General programming |
| **8 ans+** | Not recommended for ages under 8 |
| **13 ans+** | Not recommended for ages under 13 |
| **16 ans+** | Not recommended for ages under 16 |
| **18 ans+** | Programming restricted to adults. |

Use the ◄►▲▼ buttons to select the rating you want and press the **OK** button repeatedly to select **BLOCK** 🔒 or **UNBLOCK** ☐ .

**U.S. Movie Ratings**

The U.S. Movie Ratings is used for original movies rated by the Motion Picture Association of America(MPAA) as broadcasted on cable TV and not edited for television.
The U.S. Movie Ratings includes the following options:
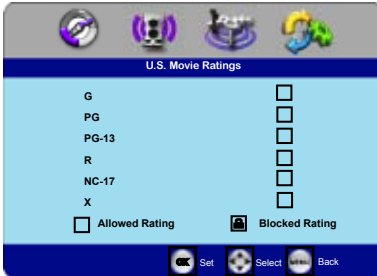
| | |
|---|---|
| **U.S. Movie Ratings** | |
| G | ☐ |
| PG | ☐ |
| PG-13 | ☐ |
| R | ☐ |
| NC-17 | ☐ |
| X | ☐ |
| ☐ Allowed Rating | 🔒 Blocked Rating |
| | Set  Select  Back |

| RATING | DESCRIPTION |
|---|---|
| **G** | General Audiences.  Movie is appropriate for all ages |
| **PG** | Parental Guidance Suggested. May contain material not suited for younger viewers |
| **PG-13** | Contains content that may not be appropriate for viewers under the age of 13 |
| **R** | Restricted. Contains adult content, no one under 17 admitted without parent |
| **NC-17** | No one 17 and under admitted |
| **X** | No one 17 and under admitted |

Use the ◄► ▲▼ buttons to select the rating you want and press the **OK** button repeatedly to select **BLOCK** 🔒 or **UNBLOCK** ☐ .

# TROUBLESHOOTING

⚠️ **Before consulting service personnel, check the following chart for a possible cause of the trouble and for a possible solution.**

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**TV will not turn on**

❶ Make sure the power cord is plugged in, then press the 🔴 button on the remote.

❷ The batteries in the remote control may have lost their charge.

❸ Replace the batteries.

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**No picture, no sound**

❶ Check the interface cable between TV and antenna/cable TV.

❷ Press the 🔴 button on the remote.

❸ Press the **INPUT** button on the remote, then press ▲▼ button to select the connected video sources and press OK.

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**Poor picture, sound OK**

❶ Check the interface cable between TV and antenna/cable TV.

❷ Try another channel, the station may have broadcast difficulties.

❸ Adjust the Brightness/Contrast options in the **VIDEO** Menu.

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**Picture OK, poor sound**

❶ Sound may be muted. Press the **MUTE** button on the remote.

❷ Press the **VOL+** button to increase the volume.

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**Audio noise**

❶ Move any infrared equipment away from the TV.

# SPECIFICATIONS

| MODEL | | ELETT191 | ELETT221 |
|---|---|---|---|
| Panel | Panel Size | 18.5" TFT | 21.5" TFT |
| | Brightness | 250 | 250 |
| | Contrast Ratio | 1000:1 | 800:1 |
| Max. Resolution | | 1366x768 | 1920 x 1080 |
| Input Connector | C-VIDEO | 1 | 1 |
| | YPbPr | 1 | 1 |
| | AUDIO IN(L/R) | 2 | 2 |
| | VGA | 1 | 1 |
| | HDMI | 1 | 1 |
| | VGA LINE IN | 1 | 1 |
| | COAXIAL OUT | 1 | 1 |
| | EARPHONE | 1 | 1 |
| | VHF/UHF IN | 1 | 1 |
| Speakers | | 3Wx2 | 3Wx2 |
| AC power adapter | | 100~240V AC, 50/60HZ | 100~240V AC, 50/60HZ |
| TV Input | | 12V DC, 4A | 12V DC, 4A |
| Power Consumption | | Max. 42 W, standby < 1 W | Max. 45 W, standby < 1 W |
| Dimension | | 19.2*5.6*13.7 inch | 20.8*6.7*15.2 inch |
| Weight | | 12.5 lbs | 13.8 lbs |

| MODEL | | ELETT241 |
|---|---|---|
| Panel | Panel Size | 23.6" TFT |
| | Brightness | 250 |
| | Contrast Ratio | 1000:1 |
| Max. Resolution | | 1920x1080 |
| Input Connector | C-VIDEO | 1 |
| | YPbPr | 1 |
| | AUDIO IN(L/R) | 2 |
| | VGA | 1 |
| | HDMI | 1 |
| | VGA LINE IN | 1 |
| | COAXIAL OUT | 1 |
| | EARPHONE | 1 |
| | VHF/UHF IN | 1 |
| Speakers | | 3Wx2 |
| AC power adapter | | 100~240V AC, 50/60HZ |
| TV Input | | 12V DC, 5A |
| Power Consumption | | Max. 52 W, standby < 1 W |
| Dimension | | 22.6*6.7*16.1 mm |
| Weight | | 16.4 lbs |

Features and Specifications are subject to change without notice.

# DISPLAY MODE

The screen resolution has been optimized during manufacture for the display modes listed below.
If the signal from the system equals the standard signal mode, the screen is adjusted automatically.  If the signal from the system does not equal the standard signal mode, adjusting the screen resolution by referring to your video card user guide otherwise there may be no video,

## Video signal: (VGA Standard)

| Resolution (Dot X Line) | Vertical Frequency(Hz) | Horizontal Frequency(kHz) |
|---|---|---|
| 640 x 350 | 85 | 37.9 |
| 640 x 400 | 85 | 37.9 |
| 720 x 400 | 85 | 37.9 |
| 640 x 480 | 60 | 31.5 |
| | 72 | 37.9 |
| | 75 | 37.5 |
| | 85 | 43.3 |
| 800 x 600 | 56 | 35.1 |
| | 60 | 37.9 |
| | 72 | 48.1 |
| | 75 | 46.9 |
| | 85 | 53.7 |
| 1024 x 768 | 60 | 48.4 |
| | 70 | 56.5 |
| | 75 | 60.0 |
| | 85 | 68.7 |
| 1152 x 864 | 75 | 67.5 |
| 1280 x 960 | 60 | 60.0 |
| 1280 x 1024 | 60 | 64.0 |
| 1366 x 768 | 60 | 47.7 |